

Work Order ID 81123-1

81123

Page 1

March-08-12 8:54:25 AM

Item ID: D3560-041

SPHIT-2

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Arm Weldment

Stop

NS2

Start Date: 08/03/2012 Start Qty: 6.00

R 3

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 6.00

R 3

Customer:

Reference:

Approvals:

Process Plan: MLC

Date: 12/03/09 Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3560

Rev D

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

sent 12/04/01

6 15

Jeaspa Bandsaw

Cut blanks 16.750" long

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

BA 12/04/07

6

HAAS CNC vertical machine #1

1-Mill as per Folio FA693 Rev: FA & Dwg D3560 Rev: D

2-C'sink 0.196" hole on manual mill as per dwg D3560

3-Deburr per dwg D3560

12-4-10

120

0.00

120

QC2- Inspect parts off machine FAI/FAIB

BA 12/04/08

6

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 81123

March-08-12 8:54:25 AM

81123

Page 2

Item ID: D3560-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Arm Weldment

Start Date: 08/03/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130 QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

OK 12/04/11

6

Quality Control

140

0.00

140

Large Fab

Large Fab

Memo

0.00

3

φ

ht

Large Fab

1-Weld assembly as per dwg D3560
STEP:
1- clean material (buff bracket and bottom of arm with blue pad)
2- set up bracket and arm on jig
3- preheat bracket and arm with torch
4- clean before welding with brush
5- set up machine to 135 amps
6- weld across bottom and top ends
7- reheat with torch (65 deg C)
8- on one side weld from bottom to top half way
9- same for other side (half way)
10- from half way point weld the rest of the first side (ease off pedal near end)
11- same for remaining side (ease off pedal near end)

Alum. Rod # 120169

12.04.13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 81123

March-08-12 8:54:25 AM

81123

Page 3

Item ID: D3560-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Arm Weldment

Stop ***NS2***

Start Date: 08/03/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	Memo	0.00							
Quality Control									
160	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
160									
QC	Memo	0.00							
Quality Control									
170	Chemical Conversion Coat per QSI005 4.1	0.00							
170									
HandFinish	Memo	0.00							
Hand Finishing									

Sizler 13

(83)

-041

3

0

BE 12/04/13

116

12-446

Work Order ID 81123

March-08-12 8:54:25 AM

81123

Page 4

Item ID: D3560-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Arm Weldment

Start Date: 08/03/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 22/03/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC3- Inspect Part Finish

0.00

180

QC

Memo

0.00

Quality Control

3

Ø

12.04.16

190

Small Fab

0.00

190

Small Fab

Memo

0.00

Small Fab

1-Press bushing in D3560 arm per dwg D3562

3

Ø

12/04/16

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Memo

0.00

Quality Control

12/04/17

Ø

0.01

Work Order ID 81123

March-08-12 8:54:25 AM

81123

Page 5

Item ID: D3560-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Arm Weldment
 Start Date: 08/03/2012 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 22/03/2012 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Identify as per dwg & Stock Location: <i>WJ</i>	0.00							
210									
Packaging	Memo	0.00							<i>ll</i>
Packaging	*** STOCK IN STEP CELL***								<i>12-04-16</i>
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							<i>12/4/17</i>
Quality Control									<i>ME</i> <i>12-04-17</i>

Picklist Print

March-08-12 8:54:29 AM

Page 1

Work Order ID: 81123

Parent Item: D3560-041

Parent Item Name: Arm Weldment

81123

D3560-041

Start Date: 08/03/2012

Required Date: 22/03/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A New Issue 07.05.24 EC
IPP rev B ECN 987 07.10.09 EC verified by: DD
IPP Rev:C ECN1048 07-12-18 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2808

D2808

Bushing

Manufactured No

100

Each

35.0000

1

6

**

Location

Loc Qty

Loc Code

GA

35

32896

2

79688

33

M6061T6B0.500X05.00
0

Purchased No

140

f

75.2274

1.395

3

8.810526

M6061T6B0 500X05 000

6061-T6 Bar .500 x 5.00

**

Location

Loc Qty

Loc Code

MAT001

21.834

112154

6.935

117933

2.123

119346

12.776

MAT004

53.3934

120243

24

120421

5.3934

120866

24

M121040 X 8.82

ML 12/04/01

Picklist Print

March-08-12 8:54:29 AM

Page 2

Work Order ID: 81123

Parent Item: D3560-041

Parent Item Name: Arm Weldment

81123

D3560-041

Start Date: 08/03/2012

Required Date: 22/03/2012

Start Qty: 6.00

Required Qty: 6.00

D3592-1

Manufactured No

190

Each

17.0000

1

6

**

D3592-1

Plate

12.02.13

Location

Loc Qty

Loc Code

WA

15

79715

15

WA002

2

47015

2

3

March-08-12 8:54:29 AM

Shop Packet Print

Page 2

DART AEROSPACE LTD		Work Order:	81123
Description: Arm		Part Number:	D3560-1
Inspection Dwg: D3560	Rev: D	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

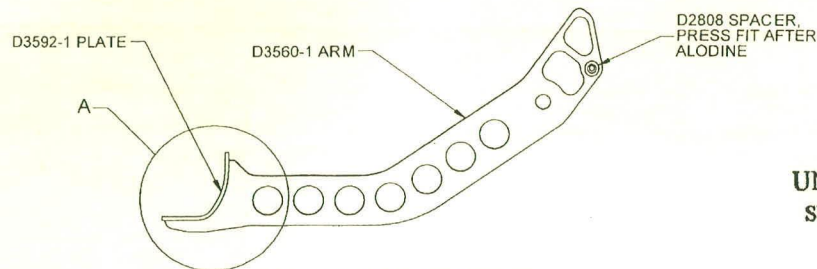
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.507	+0.000/-0.001	Ø0.5063	✓		Mic	GA-03
Ø0.196	+0.005/-0.001	Ø0.198	✓		Vern	GA-01
Ø1.000	+0.010/-0.001	Ø1.004	✓		"	"
0.500	+/-0.010	0.495	✓			
0.250	+/-0.010	0.251	✓			
0.275	+/-0.010	0.277	✓			
0.188	+/-0.010	0.190	✓		Mic	GA-03
2.000	+/-0.010	1.999	✓		Vern	GA-01
1.700	+/-0.010	1.700	✓		"	"
Ø0.385 x 100°	+/-0.010 x 0.5°	Ø0.385 x 100°	—		"	"
0.250 Deep	+/-0.010	0.250	✓		"	"

Measured by: B.A. [Signature]	Audited by: [Signature]	Prototype Approval:	N/A
Date: 12/04/08	Date: 12/04/11	Date:	N/A

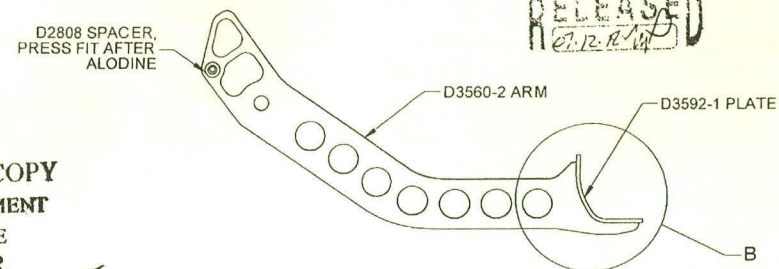
Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue P/O D3560-041	KJ/JLM	
B	07.06.13	Dimensions updated per Dwg Rev B	KJ/JLM	
C	08.07.24	Dwg Rev updated	KJ/DD [Signature]	[Signature]

RELEASED
07.12.16

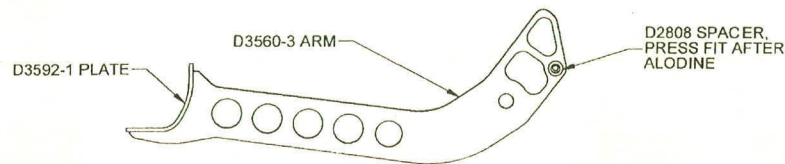
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 81123 *MLJ*
12/03/09



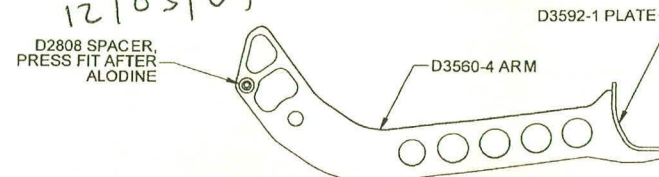
D3560-041 ARM WELDMENT



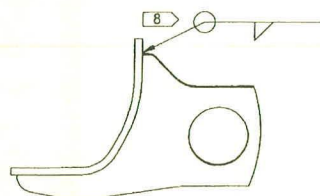
D3560-042 ARM WELDMENT



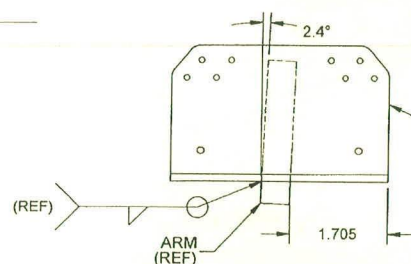
D3560-043 ARM WELDMENT



D3560-044 ARM WELDMENT



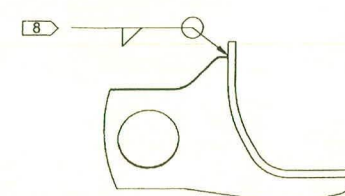
DETAIL A
SCALE 1 : 2



PARTS LIST

QTY -041	QTY -042	QTY -043	QTY -044	P/N	DESCRIPTION
X				D3560-041	ARM WELDMENT
	X			D3560-042	ARM WELDMENT
		X		D3560-043	ARM WELDMENT
			X	D3560-044	ARM WELDMENT
1	1	1	1	D2808	SPACER
1				D3560-1	ARM
	1			D3560-2	ARM
		1		D3560-3	ARM
			1	D3560-4	ARM
1	1	1	1	D3592-1	PLATE

- NOTES:
1) MATERIAL: N/A
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 1.23 lbs (TYP)
8) WELDING: PER DART QSI 004

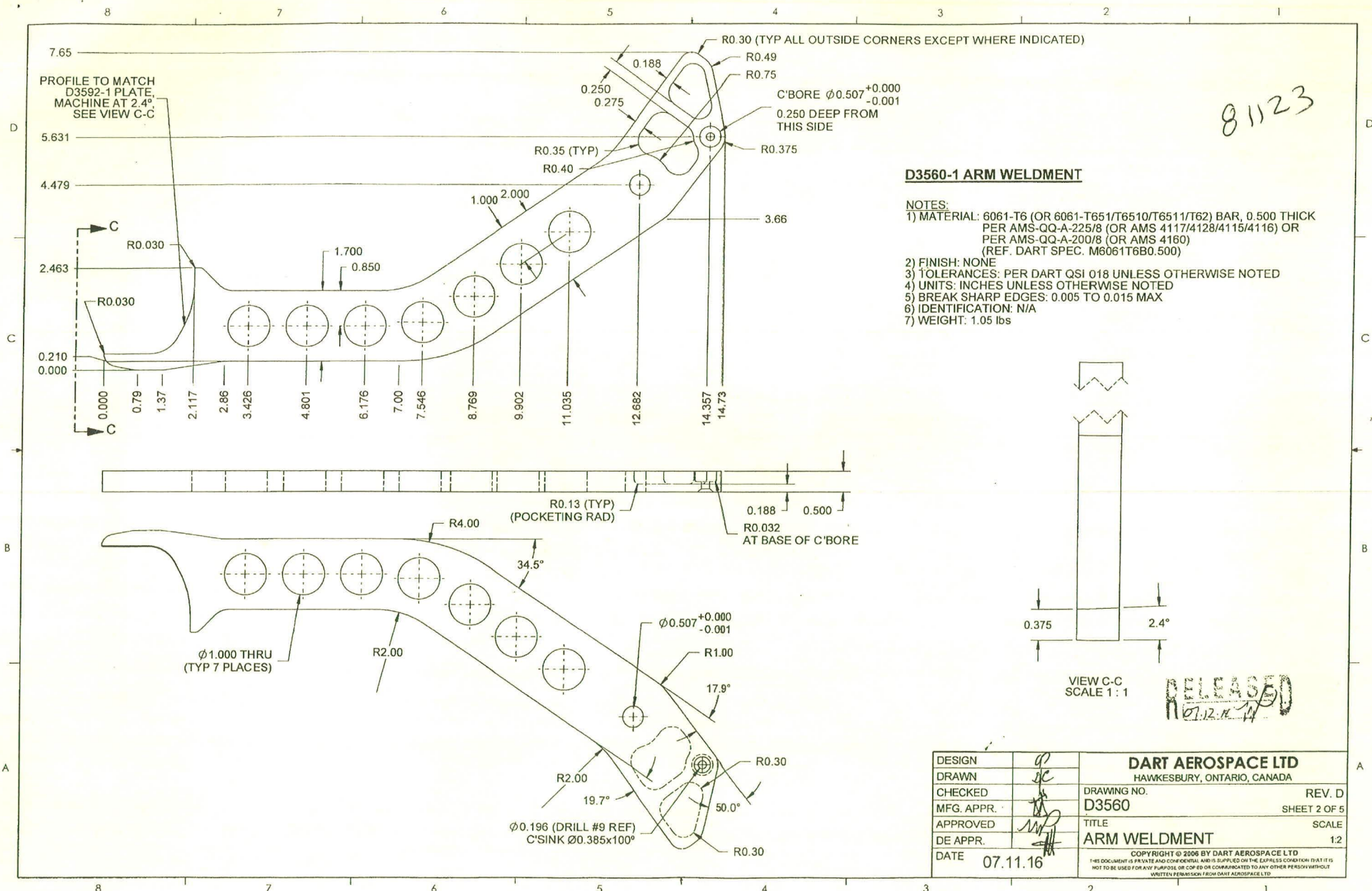


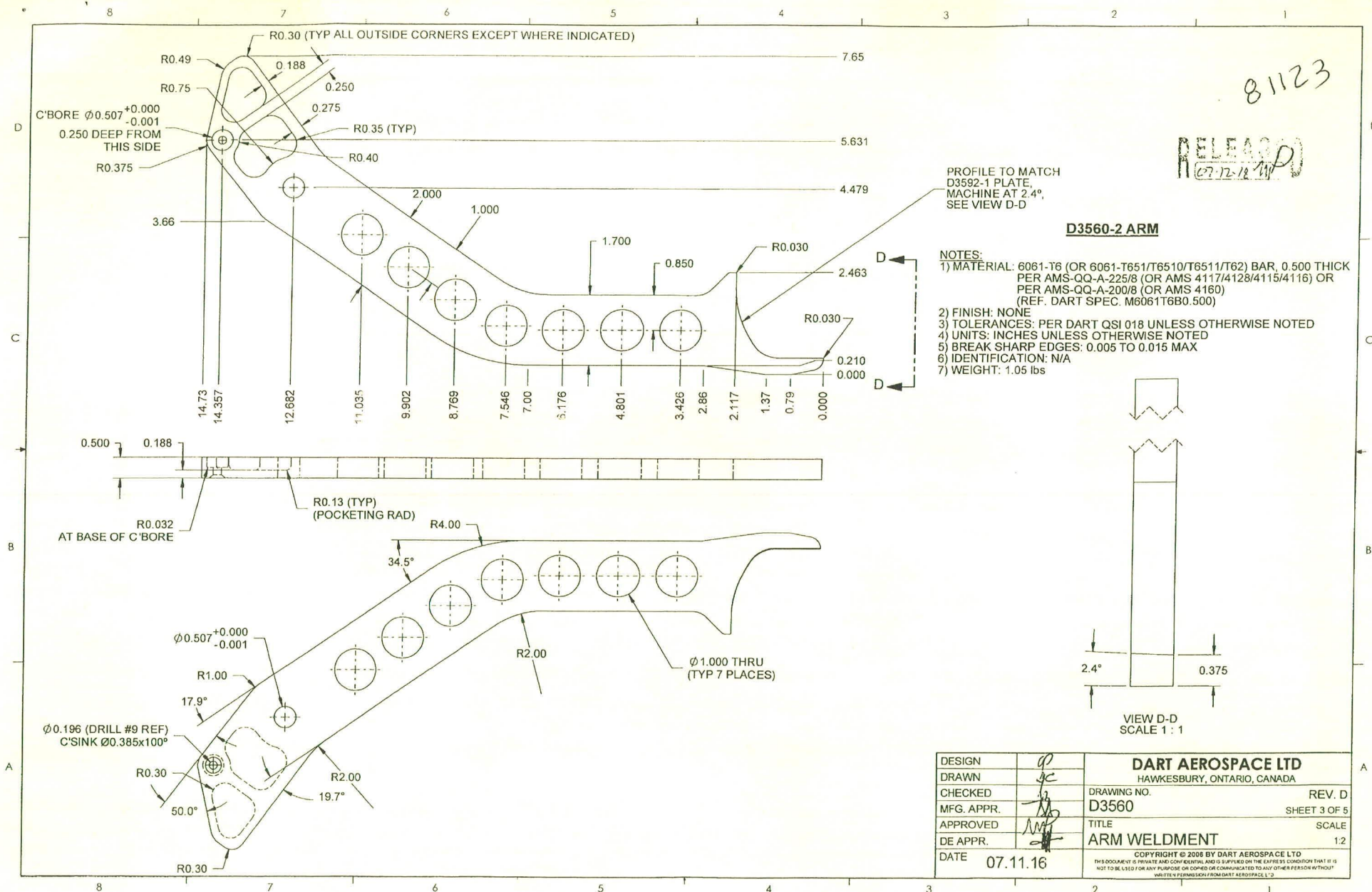
DETAIL B
SCALE 1 : 2

DESIGN	ADD D2808 PRESS FIT NOTE; REDRAWN IN SOLIDWORKS	DC	07.11.16
CHECKED	REMOVE POWDER COAT	CP	07.06.19
MFG. APPR.	REDESIGN AS WELDMENT, ADD POCKETS	CP	07.01.15
APPROVED	NEW ISSUE	CP	06.09.25
DE APPR.		BY	DATE
DATE	07.11.16		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3560	REV. D SHEET 1 OF 5
TITLE ARM WELDMENT	
SCALE 1:4	

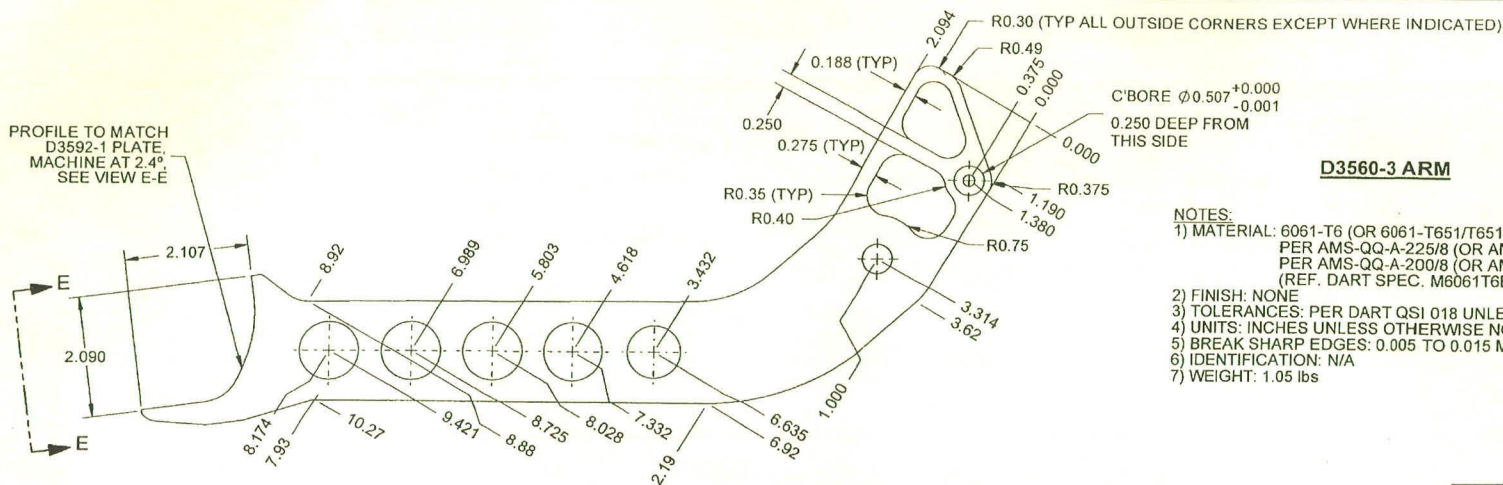
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DESIGN	<i>JP</i>	DART AEROSPACE LTD	
DRAWN	<i>JC</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>JL</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>MA</i>	D3560	SHEET 3 OF 5
APPROVED	<i>MA</i>	TITLE	SCALE
DE APPR.	<i>MA</i>	ARM WELDMENT	1:2
DATE	07.11.16	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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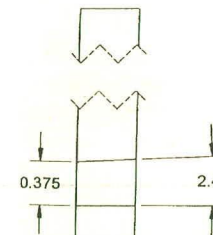
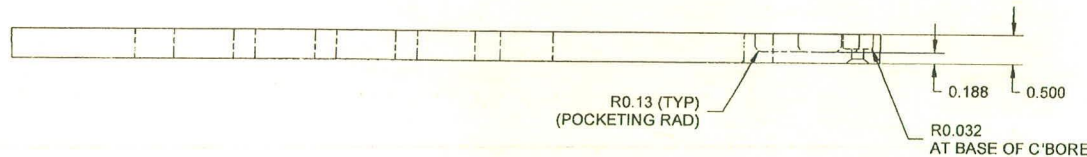
PROFILE TO MATCH
D3592-1 PLATE,
MACHINE AT 2.4°
SEE VIEW E-E



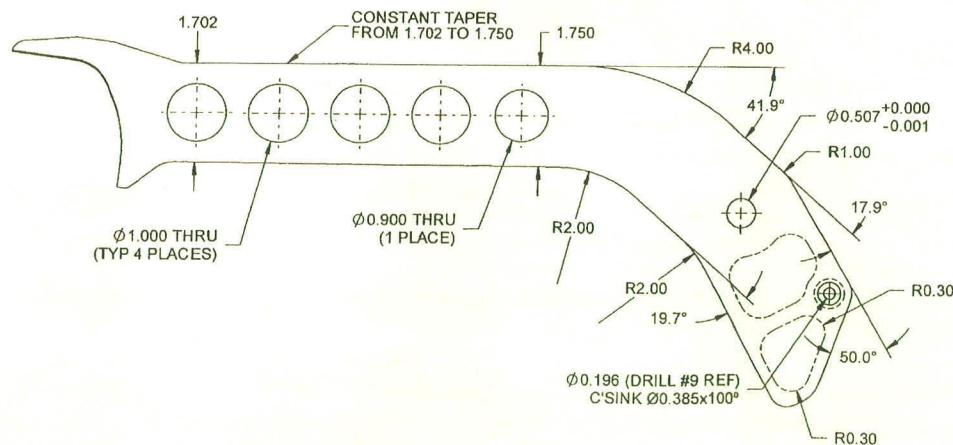
D3560-3 ARM

NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B0.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs



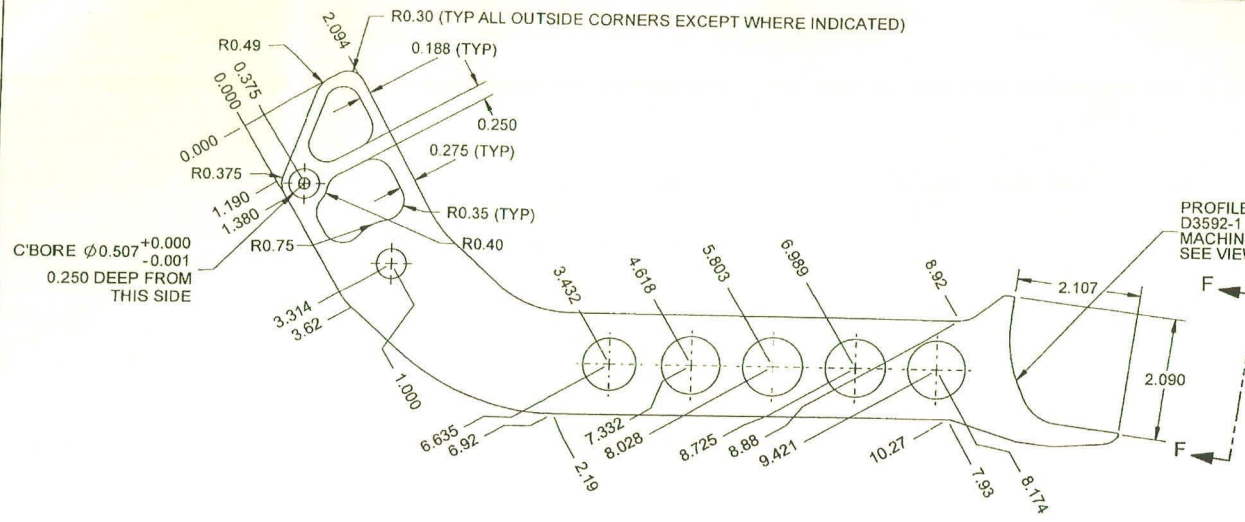
VIEW E-E
SCALE 1:1



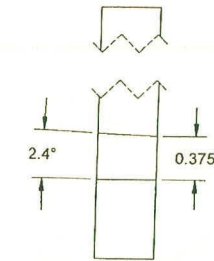
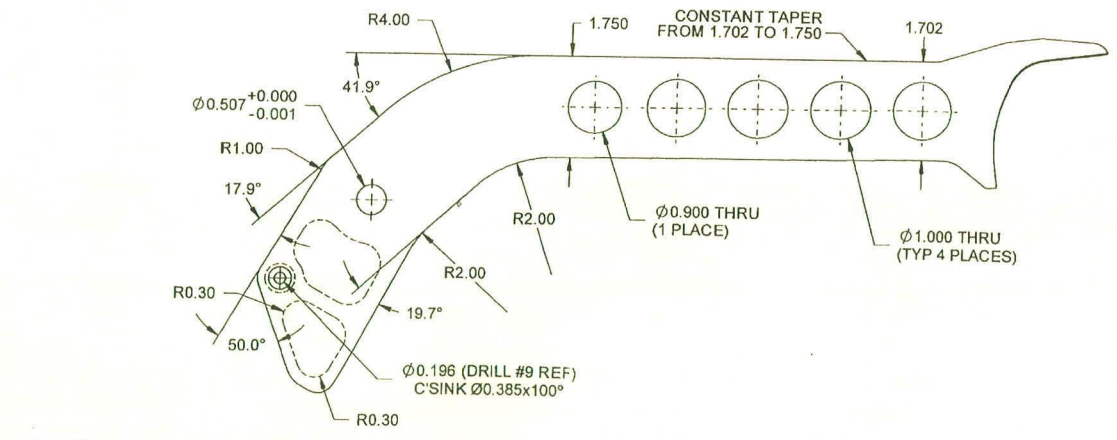
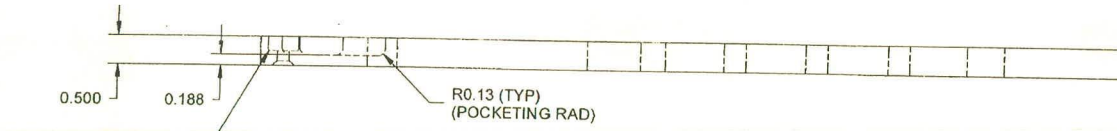
DESIGN	q	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	4C		
CHECKED	4C	DRAWING NO.	REV. D
MFG. APPR.	4C	D3560	SHEET 4 OF 5
APPROVED	4C	TITLE	SCALE
DE APPR.	4C	ARM WELDMENT	1:2
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RELEASED
10.12.14

81123









PROFILE TO MATCH
D3592-1 PLATE,
MACHINE AT 2.4°
SEE VIEW F-F



VIEW F-F
SCALE 1:1

- NOTES:
- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B0.500)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 1.05 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3560	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		ARM WELDMENT	1:2
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